

Listing of the Claims

1. (Currently amended) [[A]] An encoding method for encoding a description element of an instance of a markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, said description element to be encoded comprising a content, wherein the method includes:

- providing a table derived from said schema, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element,

- scanning a hierarchical memory representation of said instance from parent description elements to child description elements until reaching the description element to be encoded, and retrieving the identification information of each scanned description element from said table, and

- encoding said description element to be encoded as a fragment comprising said content and a sequence of the retrieved identification information.

2. (Previously presented) An encoding method as claimed in claim 1, characterized in that when a description element is defined in the schema as possibly having multiple occurrences, said table further comprises for said description element an occurrence information for indicating that said description element may have multiple occurrences in an instance, and when an occurrence having a given rank is scanned during the encoding,

the corresponding retrieved identification information is indexed with said rank.

3. (Previously presented) A decoding method for decoding a fragment comprising a content and a sequence of identification information, wherein the method includes:

- using at least one table derived from a markup language schema, said schema defining a hierarchical structure of description elements comprising hierarchical levels, parent description elements and child description elements, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element,
- scanning said sequence identification information by identification information,
- at each step searching in said table for the description element associated to the current identification information and adding said description element to a hierarchical memory representation of an instance of said schema if not already contained in said hierarchical memory representation, and
- adding said content to the description element of said hierarchical memory representation that is associated to the last identification information of said sequence.

4. (Previously presented) A decoding method as claimed in claim 3, characterized in that when a description element is defined in the schema as possibly having multiple occurrences, said table further comprises for said description element an occurrence information for indicating that said description element may have multiple occurrences in an instance, and when said sequence comprises an indexed identification information,

said index is interpreted as an occurrence rank for the associated description element, same description element(s) of lower rank(s) being added to said hierarchical memory representation if not already contained in said hierarchical memory representation #.

5. (Previously presented) An encoder for encoding a description element of an instance of a markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, said description element to be encoded comprising a content, characterized in that the encoder comprises:

- a memory for storing at least one table derived from said schema, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element, and

- computing means for scanning said instance from parent description elements to child description elements until reaching the description element to be encoded, and retrieving the identification information of each scanned description element, and for encoding said description element to be encoded as a fragment comprising said content and a sequence of the retrieved identification information.

6. (Previously presented) A decoder for decoding a fragment comprising a content and a sequence of identification information, characterized in that the decoder comprises:

- a memory for storing at least one table derived from a markup language schema, said schema defining a hierarchical structure of description elements comprising hierarchical levels, parent description elements and child description elements, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element,

- computing means for:

- scanning said sequence identification information by identification information, at each step searching in said table for the description element associated to the current identification information and adding said description element to a hierarchical memory representation of an instance of said schema if not already contained in said hierarchical memory representation, and

- adding said content to the description element of said hierarchical memory representation that is associated to the last identification information of said sequence.

7. (Original) A transmission system comprising an encoder as claimed in claim 5.

8. (Previously presented) A transmission system comprising a decoder as claimed in claim 6.

9. (Previously presented) A data transmission system, the data transmission system includes a signal for transmission over a transmission network that comprises an encoder and a decoder having a memory storing at least one table derived from a markup language schema, said markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, said table containing identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element,

wherein said signal includes at least one fragment representing a content of an encoded description element, and a sequence of identification information being associated in said table to said encoded description element and at least one parent description element, wherein the sequence of identification information is usable by the decoder as a key to decode the encoded description element.

10. (Previously presented) A computer program product comprising a computer useable medium having computer readable program code embodied therein for reporting on performance of a plurality of parameters, the program product comprising:

program code configured to implement a decoder having a table for updating a hierarchical memory representation of an instance of a markup language schema, said markup language schema defining a hierarchical structure of description elements, said hierarchical structure comprising hierarchical levels, parent description elements and child description elements, characterized in that the table is derived from said markup

language schema, and the table contains identification information for solely identifying each description element in a hierarchical level, and structural information for retrieving any child description element from its parent description element.